Z-SCORES SUMMARY

Aggregates – September 2024 (124)

This proficiency program was conducted in September 2024 with participants throughout Australia. This summary provides the z-scores for the tests performed in this program and are ordered as shown below.

- AS 1141 **11** Particle size distribution
- AS 1141 **12** Material finer than 75 µm
- AS 1141 **15** Flakiness index
- AS 1141 **20.1** Average Least Dimensions (ALD)
- AS 1141 **6.1** Apparent particle density
- AS 1141 **6.1** Particle density on a dry basis
- AS 1141 **6.1** Particle density on a *saturated–surface* dry basis
- AS 1141 **6.1** Water absorption
- AS 1141 **14** Particle shape by proportional calliper (2:1)

A z-score summary is provided to allow participants to gauge performance and address outliers as early as possible. It is recommended that any remedial action be undertaken cautiously until the final report for the program has been consulted.

It would appear that some participants had trouble filling out the result log form. In most cases, participant results were reported as received. However, there were some results where LabSmart had to act.

Firstly, on the Z-score labelled "Sample A - Material Finer than 75µm", the Information Sheet and Result Log sheet were not clear on the unit of measurement. This resulted in a mix of results reporting to either grams or percentages. In this case, where the supporting data was available, results assumed to be reported in grams were changed to percentages and highlighted green.

Secondly, some results were reported incorrectly; these results were removed from the data set.

These and other matters will be discussed in the full report due out before the end of the year.

The z-scores shown are unlikely to change significantly. Small changes, however, may become necessary during the preparation of the final report. The final report provides other information, apart from z-scores, that may be used to assess performance and interpret the significance of outliers.

Participants may forward this summary report to NATA as an indication of a participant's general performance. The final report, once issued, supersedes this z-score summary.

All participants need to assess their overall performance once the final report has been issued.

Please direct questions to:

Contact: **Jeffrey Mulholland – 0439 208 406**
E-mail: **jeffm@labsmart.com.au**
Web: **www.labsmart.com.au**

Sample A - Percent Passing 13.2mm: Z - Scores

Code	Test Result %	Z Score
Z6	58	0.75
E5	50	**-3.81** #
V2	56.77	0.05
L5	55	-0.96
M5	57	0.18
F9	62.42	**3.27** #
X2	58.44	1.00
P6	54	-1.53
Q5	54.18	-1.43
J2	56.78	0.05
G3	57.66	0.56
J7	57	0.18
D9	57.44	0.43
K8	55.5	-0.68
Q6	51.6	**-2.90**
V6	56.6	-0.05
L9	55.41	-0.73
W2	55.62	-0.61
G5	56.55	-0.08
W8	56.91	0.13
M4	55	-0.96
U8	52.74	-2.25
T8	58.60	1.09
W4	32.43	**-13.83** #
V5	56.34	-0.20
C3	56.80	0.07
D5	55.22	-0.84
B9	57.59	0.52

Code	Test Result %	Z Score
C8	57.46	0.44
E3	58.11	0.81
F5	58	0.75
M6	58	0.75
X7	57.28	0.34
U3	58.3	0.92
X9	57.01	0.19
M3	55.4	-0.73
S3		
V9	53	-2.10
K3	57.10	0.24
S2	58.2	0.86
J4	55.33	-0.77
A5	55.17	-0.86
S4	56.01	-0.39
B2	52.57	-2.35
N2	53.37	-1.89

Statistic	*Value*	
Number of results	**44**	
Median	**56.69**	
Median MU	**0.33**	
First Quartile	**55.13**	
Third Quartile	**57.49**	
IQR	**2.37**	
Normalised IQR	**1.75**	
CV (%)	**3.1**	
Minimum	**51.60**	(32.43)
Maximum	**58.60**	(62.42)
Range	**7.00**	(29.99)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample A - Percent Passing 9.5mm: Z - Scores

Code	Test Result %	Z Score
Z6	34	0.88
E5	32	-2.08
V2	33.62	0.32
L5	33	-0.60
M5	33	-0.60
F9	34.28	1.30
X2	33.53	0.19
P6	32	-2.08
Q5	32.49	-1.36
J2	33.80	0.59
G3	33.31	-0.14
J7	34	0.88
D9	33.60	0.29
K8	31.9	-2.23
Q6	30.9	**-3.71** #
V6	33.8	0.59
L9	33.24	-0.24
W2	31.97	-2.13
G5	33.92	0.76
W8	33.42	0.02
M4	32	-2.08
U8	32.08	-1.96
T8	33.81	0.60
W4	17.18	**-24.05** #
V5	33.81	0.60
C3	33.39	-0.02
D5	33.65	0.36
B9	33.55	0.21

Code	Test Result %	Z Score
C8	33.52	0.17
E3	33.55	0.21
F5	33	-0.60
M6	34	0.88
X7	32.96	-0.66
U3	33.3	-0.16
X9	33.45	0.07
M3	31.7	-2.53
S3		
V9	34	0.88
K3	33.22	-0.27
S2	33.9	0.73
J4	33.71	0.45
A5	33.92	0.76
S4	33.04	-0.54
B2	32.92	-0.72
N2	32.80	-0.90

Statistic	*Value*	
Number of results	**44**	
Median	**33.41**	
Median MU	**0.13**	
First Quartile	**32.89**	
Third Quartile	**33.80**	
IQR	**0.91**	
Normalised IQR	**0.67**	
CV (%)	**2.0**	
Minimum	**31.70**	(17.18)
Maximum	**34.28**	(34.28)
Range	**2.58**	(17.10)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample A - Percent Passing 6.7mm: Z - Scores

Code	Test Result %	Z Score
Z6	18	0.94
E5	17	-1.15
V2	17.53	-0.04
L5	18	0.94
M5	18	0.94
F9	17.67	0.25
X2	17.81	0.54
P6	16	**-3.23** #
Q5	17.12	-0.90
J2	17.36	-0.40
G3	17.81	0.54
J7	18	0.94
D9	17.70	0.31
K8	15.8	**-3.65** #
Q6	17.1	-0.94
V6	17.7	0.31
L9	17.16	-0.81
W2	15.44	**-4.40** #
G5	17.80	0.52
W8	17.47	-0.17
M4	15	**-5.31** #
U8	16.80	-1.56
T8	17.67	0.25
W4	7.64	**-20.65** #
V5	18.02	0.98
C3	17.65	0.21
D5	17.55	0.00
B9	17.88	0.69

Code	Test Result %	Z Score
C8	17.77	0.46
E3	17.63	0.17
F5	17	-1.15
M6	17	-1.15
X7	17.40	-0.31
U3	17.4	-0.31
X9	17.55	0.00
M3	15.3	**-4.69** #
S3		
V9	19	**3.02** #
K3	17.72	0.35
S2	17.7	0.31
J4	17.68	0.27
A5	17.33	-0.46
S4	17.68	0.27
B2	17.04	-1.06
N2	17.19	-0.75

Statistic	*Value*	
Number of results	**44**	
Median	**17.55**	
Median MU	**0.09**	
First Quartile	**17.09**	
Third Quartile	**17.73**	
IQR	**0.65**	
Normalised IQR	**0.48**	
CV (%)	**2.7**	
Minimum	**16.80**	(7.64)
Maximum	**18.02**	(19.00)
Range	**1.22**	(11.36)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample A - Percent Passing 4.75mm: Z - Scores

Code	Test Result %	Z Score
Z6	8	0.00
E5	8	0.00
V2	8.27	0.60
L5	8	0.00
M5	8	0.00
F9	8.59	1.31
X2	8.50	1.11
P6	7	-2.22
Q5	7.27	-1.62
J2	8.26	0.58
G3	8.27	0.60
J7	8	0.00
D9	7.91	-0.20
K8	6.1	**-4.22 #**
Q6	7.6	-0.89
V6	8.1	0.22
L9	8.13	0.29
W2	5.59	**-5.35 #**
G5	8.26	0.58
W8	7.74	-0.58
M4	5	**-6.66 #**
U8	7.72	-0.62
T8	8.01	0.02
W4	4.54	**-7.68 #**
V5	8.32	0.71
C3	7.89	-0.24
D5	7.94	-0.13
B9	8.27	0.60

Code	Test Result %	Z Score
C8	8.15	0.33
E3	8.04	0.09
F5	8	0.00
M6	8	0.00
X7	7.67	-0.73
U3	7.6	-0.89
X9	7.79	-0.47
M3	5.6	**-5.33 #**
S3		
V9	9	2.22
K3	8.29	0.64
S2	8.4	0.89
J4	7.96	-0.09
A5	7.84	-0.36
S4	8.43	0.95
B2	7.39	-1.35
N2	7.31	-1.53

Statistic	*Value*	
Number of results	**44**	
Median	**8.00**	
Median MU	**0.08**	
First Quartile	**7.65**	
Third Quartile	**8.26**	
IQR	**0.61**	
Normalised IQR	**0.45**	
CV (%)	**5.6**	
Minimum	**7.00**	(4.54)
Maximum	**9.00**	(9.00)
Range	**2.00**	(4.46)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample A - Material Finer than 75µm: Z - Scores

Code	Test Result %	Z Score
Z6	2.4	-0.06
E5	3.31	1.88
V2	2.7	0.54
L5		
M5	4.6g	**R**
F9	2.48	0.06
X2	2.41	-0.10
P6	2.04	-0.91
Q5	2.24	-0.47
J2	2.58	0.28
G3	2.17	-0.63
J7	2.13	-0.72
D9	1.71	-1.64
K8	2.2	-0.56
Q6	2.52	0.14
V6	2.8	0.76
L9	2	-1.00
W2	2.5	0.10
G5		
W8	2.75	0.65
M4	3	1.20
U8	2.82	0.80
T8	2.43	-0.06
W4	2.26	-0.43
V5	2.79	0.74
C3	2.80	0.76
D5	2.87	0.91
B9	1.97	-1.07

Code	Test Result %	Z Score
C8	2.7	0.54
E3	2.4	-0.12
F5		
M6	2.12	-0.74
X7	2.73	0.61
U3	2.13	-0.72
X9	1.98	-1.05
M3	2.83	0.83
S3		
V9	2.0	-1.00
K3	3.05	1.31
S2	2.5	0.10
J4	2.78	0.72
A5	2.77	0.69
S4	2.24	-0.47
B2	2.00	-1.00
N2	2.43	-0.06

Statistic	*Value*	
Number of results	**40**	
Median	**2.46**	
Median MU	**0.09**	
First Quartile	**2.16**	
Third Quartile	**2.77**	
IQR	**0.61**	
Normalised IQR	**0.45**	
CV (%)	**18.5**	
Minimum	**1.71**	()
Maximum	**3.31**	()
Range	**1.60**	()

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample A - Flakiness Index: Z - Scores

Code	Test Result %	Z Score
Z6	19.7	0.64
E5	19.7	0.64
V2	22.1	1.46
L5	23	1.77
M5	15	-0.98
F9	16.2	-0.57
X2	12.1	-1.98
P6	18.0	0.05
Q5	21.6	1.29
J2	19.1	0.43
G3	13.3	-1.56
J7	17.7	-0.05
D9	16.3	-0.53
K8	NR	
Q6	21.6	1.29
V6	19.3	0.50
L9	17.4	-0.15
W2	19.1	0.43
G5	18.9	0.36
W8	18.9	0.36
M4	17.09	-0.26
U8	NR	
T8	18.5	0.22
W4	22.4	1.56
V5	13.1	-1.63
C3	NR	
D5	NR	
B9	13.2	-1.60

Code	Test Result %	Z Score
C8	17.2	-0.22
E3	19.74	0.65
F5	15.35	-0.86
M6	23.5	1.94
X7	17.5	-0.12
U3	16.3	-0.53
X9	18.5	0.22
M3	11.5	-2.18
S3		
V9	15.7	-0.74
K3	42.6	**8.51** #
S2	16.0	-0.64
J4	10.8	-2.42
A5	NR	
S4	15.3	-0.88
B2	23.0	1.77
N2	NR	

Statistic	*Value*	
Number of results	**38**	
Median	**17.9**	
Median MU	**0.59**	
First Quartile	**15.8**	
Third Quartile	**19.7**	
IQR	**3.93**	
Normalised IQR	**2.91**	
CV (%)	**16.3**	
Minimum	**10.8**	(10.8)
Maximum	**23.5**	(42.6)
Range	**12.7**	(31.8)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample A - Average Least Dimension: Z - Scores

Code	Test Result mm	Z Score
Z6	8.9	0.73
E5	10.0	1.58
V2	7.8	-0.12
L5	NR	
M5	NR	
F9	8.4	0.35
X2	8.9	0.73
P6	NR	
Q5	9.2	0.96
J2	9.1	0.89
G3	NR	
J7	10.1	1.66
D9	7.6	-0.27
K8	7.8	-0.12
Q6	12.32	**3.37** #
V6	8.0	0.04
L9	6.4	-1.19
W2	6.3	-1.27
G5	6.3	-1.27
W8	6.2	-1.35
M4	NR	
U8	NR	
T8	7.3	-0.50
W4	7.4	-0.42
V5	7.7	-0.19
C3	NR	
D5	NR	
B9	9.6	1.27

Code	Test Result mm	Z Score
C8	5.2	-2.12
E3	7.9	-0.04
F5	9.6	1.27
M6	7.9	-0.04
X7	NR	
U3	NR	
X9	NR	
M3	8.6	0.50
S3		
V9	NR	
K3	NR	
S2	9.2	0.96
J4	8.3	0.27
A5	NR	
S4	NR	
B2	6.1	-1.43
N2	NR	

Statistic	*Value*	
Number of results	**28**	
Median	**7.95**	
Median MU	**0.31**	
First Quartile	**7.4**	
Third Quartile	**9.1**	
IQR	**1.75**	
Normalised IQR	**1.30**	
CV (%)	**16.3**	
Minimum	**5.2**	(5.2)
Maximum	**10.1**	(12.3)
Range	**4.9**	(7.12)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample B - Apparent Particle Density: Z - Scores

Code	Test Result t/m³	Z Score
Z6	2.80	0.17
E5	2.79	-0.17
V2	2.80	0.17
L5	2.97	**5.90 #**
M5	3.20	**13.66 #**
F9	2.74	-1.85
X2	2.75	-1.52
P6	2.81	0.51
Q5	2.81	0.51
J2	2.85	1.85
G3	NR	
J7	2.81	0.51
D9	2.78	-0.51
K8	2.80	0.17
Q6	2.76	-1.18
V6	2.79	-0.17
L9	2.82	0.84
W2	2.80	0.17
G5	2.80	0.17
W8	2.82	0.84
M4	NR	
U8	NR	
T8	2.77	-0.84
W4	2.74	-1.85
V5	NR	
C3	NR	
D5	NR	
B9	2.78	-0.51

Code	Test Result t/m³	Z Score
C8	2.81	0.51
E3	2.81	0.51
F5	NR	
M6	NR	
X7	NR	
U3	NR	
X9	NR	
M3	2.75	-1.52
S3		
V9	2.79	-0.17
K3	2.767	-0.94
S2	NR	
J4	2.75	-1.52
A5	2.77	-0.84
S4	2.78	-0.51
B2	NR	
N2	NR	

Statistic	*Value*	
Number of results	**30**	
Median	**2.80**	
Median MU	**0.01**	
First Quartile	**2.77**	
Third Quartile	**2.81**	
IQR	**0.04**	
Normalised IQR	**0.03**	
CV (%)	**1.1**	
Minimum	**2.74**	(2.74)
Maximum	**2.85**	(3.20)
Range	**0.11**	(0.46)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample B - Particle Density on Dry Basis: Z - Scores

Code	Test Result t/m³	Z Score
Z6	2.58	0.00
E5	2.57	-0.45
V2	2.54	-1.80
L5	2.60	0.90
M5	2.23	**-15.74 #**
F9	2.58	0.00
X2	2.58	0.00
P6	2.55	-1.35
Q5	2.62	1.80
J2	2.62	1.80
G3	NR	
J7	2.68	**4.50 #**
D9	2.57	-0.45
K8	2.59	0.45
Q6	2.58	0.00
V6	2.59	0.45
L9	2.61	1.35
W2	2.60	0.90
G5	2.60	0.90
W8	2.61	1.35
M4	NR	
U8	NR	
T8	2.57	-0.45
W4	2.56	-0.90
V5	NR	
C3	NR	
D5	NR	
B9	2.56	-0.90

Code	Test Result t/m³	Z Score
C8	2.59	0.45
E3	2.58	0.00
F5	NR	
M6	NR	
X7	NR	
U3	NR	
X9	NR	
M3	2.59	0.45
S3		
V9	1.70	**-39.57 #**
K3	2.596	0.72
S2	NR	
J4	2.58	0.00
A5	2.54	-1.80
S4	2.60	0.90
B2	NR	
N2	NR	

Statistic	*Value*	
Number of results	**30**	
Median	**2.58**	
Median MU	**0.01**	
First Quartile	**2.57**	
Third Quartile	**2.60**	
IQR	**0.03**	
Normalised IQR	**0.02**	
CV (%)	**0.9**	
Minimum	**2.54**	(1.70)
Maximum	**2.62**	(2.68)
Range	**0.08**	(0.98)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample B - Particle Density on Saturated - Surface Dry Basis: Z - Scores

Code	Test Result t/m³	Z Score
Z6	2.66	0.27
E5	2.65	-0.18
V2	2.63	-1.08
L5	2.72	2.97
M5	2.53	**-5.58 #**
F9	2.64	-0.63
X2	2.64	-0.63
P6	2.64	-0.63
Q5	2.69	1.62
J2	2.71	2.52
G3	NR	
J7	2.73	**3.42 #**
D9	2.64	-0.63
K8	2.66	0.27
Q6	2.64	-0.63
V6	2.66	0.27
L9	2.68	1.17
W2	2.67	0.72
G5	2.67	0.72
W8	2.68	1.17
M4	NR	
U8	NR	
T8	2.64	-0.63
W4	2.63	-1.08
V5	NR	
C3	NR	
D5	NR	
B9	2.64	-0.63

Code	Test Result t/m³	Z Score
C8	2.67	0.72
E3	2.66	0.27
F5	NR	
M6	NR	
X7	NR	
U3	NR	
X9	NR	
M3	2.65	-0.18
S3		
V9	2.09	**-25.36 #**
K3	2.658	0.18
S2	NR	
J4	2.64	-0.63
A5	2.62	-1.53
S4	2.66	0.27
B2	NR	
N2	NR	

Statistic	*Value*	
Number of results	**30**	
Median	**2.65**	
Median MU	**0.01**	
First Quartile	**2.64**	
Third Quartile	**2.67**	
IQR	**0.03**	
Normalised IQR	**0.02**	
CV (%)	**0.8**	
Minimum	**2.62**	(2.09)
Maximum	**2.72**	(2.73)
Range	**0.10**	(0.64)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample B - Water Absorption: Z - Scores

Code	Test Result %	Z Score
Z6	3.1	0.52
E5	3.03	0.36
V2	3.69	1.88
L5	4.8	**4.44** #
M5	13.7	**24.96** #
F9	2.33	-1.26
X2	2.46	-0.96
P6	3.50	1.44
Q5	2.58	-0.68
J2	3.06	0.43
G3	NR	
J7	1.67	-2.78
D9	2.9	0.06
K8	2.83	-0.10
Q6	2.5	-0.86
V6	2.71	-0.38
L9	2.90	0.06
W2	2.82	-0.13
G5	2.82	-0.13
W8	2.90	0.06
M4	NR	
U8	NR	
T8	2.85	-0.06
W4	2.56	-0.73
V5	NR	
C3	NR	
D5	NR	
B9	3.05	0.40

Code	Test Result %	Z Score
C8	3.15	0.63
E3	3.1	0.52
F5	NR	
M6	NR	
X7	NR	
U3	NR	
X9	NR	
M3	2.29	-1.35
S3		
V9	22.73	**45.78** #
K3	2.36	-1.19
S2	NR	
J4	2.38	-1.14
A5	3.25	0.86
S4	2.46	-0.96
B2	NR	
N2	NR	

Statistic	*Value*	
Number of results	**30**	
Median	**2.88**	
Median MU	**0.10**	
First Quartile	**2.52**	
Third Quartile	**3.10**	
IQR	**0.59**	
Normalised IQR	**0.43**	
CV (%)	**15.1**	
Minimum	**1.67**	(1.67)
Maximum	**3.69**	(22.73)
Range	**2.02**	(21.06)

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.

Sample C - Proportional Calliper (2:1): Z - Scores

Code	Test Result %	Z Score
Z6	10.7	-0.11
E5	9.9	-0.34
V2	9.3	-0.51
L5	2	-2.58
M5	2	-2.58
F9	11.9	0.23
X2	9.8	-0.37
P6	NR	
Q5	17.7	1.87
J2	18.1	1.99
G3	NR	
J7	14.9	1.08
D9	13.2	0.60
K8	14.5	0.97
Q6	14.7	1.02
V6	H=11.9,J=4.9,K=1.2	R
L9	12.8	0.48
W2	NR	
G5	NR	
W8	NR	
M4	NR	
U8	NR	
T8	15.8	1.33
W4	4.3	-1.93
V5	NR	
C3	NR	
D5	NR	
B9	NR	

Code	Test Result %	Z Score
C8	10	-0.31
E3	10.3	-0.23
F5	NR	
M6	NR	
X7	NR	
U3	NR	
X9	NR	
M3	6.2	-1.39
S3		
V9	NR	
K3	NR	
S2	10.8	-0.09
J4	11.1	0.00
A5	NR	
S4	15.31	1.20
B2	11.9	0.23
N2	NR	

Statistic	*Value*	
Number of results	**23**	
Median	**11.1**	
Median MU	**0.92**	
First Quartile	**9.9**	
Third Quartile	**14.6**	
IQR	**4.75**	
Normalised IQR	**3.52**	
CV (%)	**31.7**	
Minimum	**2.0**	()
Maximum	**18.1**	()
Range	**16.1**	()

Note: A # indicates an outlier where the z-score obtained is either greater then 3 or less than -3. Codes for all participates are shown. The results column shows a blank entry or 'NR' for those participants that did not submit a result for this test. Results in **green** have been calculated by the program coordinator. An R indicates an abnormal result rejected by the program coordinator. Minimum, Maximum and Range are calculated with outliers excluded, those in brackets include outliers.